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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,553	11/19/2001	Toru Kuroda	215149US0PCT	8589

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EXAMINER

HAILEY, PATRICIA L

ART UNIT	PAPER NUMBER
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1755

DATE MAILED: 04/04/2003

19

Please find below and/or attached an Office communication concerning this application or proceeding.

F-K

Office Action Summary

Application No.

09/926,553

Applicant(s)

KURODA ET AL.

Examiner

Patricia L. Hailey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,4-6 and 8-11 is/are rejected.
- 7) ☒ Claim(s) 3 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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Applicants' remarks and amendments, filed on January 30, 2003, have been carefully considered. No claims have been canceled or added; claims 1-11 remain pending in this application.

The 112(2) rejection of claims 1-11 stated in the previous Office Action has been withdrawn in view of Applicants' amendments to claims 1, 2, 4, 6, and 8.

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Applicants' Priority Documents were filed on November 19, 2001.

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Rejections - 35 USC § 103

2. Claims 1, 2, 4-6, and 8-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ishii et al. (U. S. Patent No. 4,165,296).

Ishii et al. teach a process for regenerating an oxidation catalyst containing phosphorus, molybdenum, and alkali metal (e.g., potassium rubidium, and cesium). The catalyst may contain or have added thereto, as optional components that correspond to the elements represented by the variables A, D, X, Y, and Z in Applicants' claim 5. See col. 2, lines 6-18 of Ishii et al.

The catalyst is useful for the production of an unsaturated acid by the catalytic oxidation of an unsaturated aldehyde in the vapor phase. See col. 2, lines 19-26 of Ishii et al.

The catalyst is regenerated by adding an aqueous ammonia solution to the catalyst in the presence of a source of nitrate ion, e.g., nitric acid or ammonium nitrate. The regeneration takes place at temperatures from 20°C to 100°C. See col. 2, lines 27-39 of Ishii et al.

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Following the regeneration step, the reaction mixture (deactivated catalyst and ammonia solution) is evaporated to dryness to form a solid residue, which is dried, pulverized, molded, and calcined in air (considered to read upon the phrase "heat-treated"). See col. 2, lines 40-68 of Ishii et al.

Example 1 of Ishii et al. discusses the preparation of a catalyst having a formula corresponding to that recited in Applicants' claim 5 when the variables d, e, g, and h are all 0. The catalyst is subjected to a continuous oxidation of methacrolein and a deliberate temperature increase to deactivate the catalyst. The deactivated catalyst is subjected to the aforementioned regeneration, including a calcination temperature of 400°C. Note also the comparisons between the originally prepared catalyst and the regenerated catalyst, as shown in Table 1, which have comparable values for the percentage conversion to methacrolein and percentage selectivity for methacrylic acid (considered to read upon the limitations of claim 11).

Ishii et al. do not specifically teach or suggest the claimed step of adjusting the pH of the mixture to generate a precipitate. However, such a step is seen to be effected by the employment of nitric acid or ammonium nitrate as the source of nitrate ion (col. 2, lines 36-39 of Ishii et al.), absent the showing of convincing evidence to the contrary.

Response to Arguments

In response to Applicants' arguments that Ishii et al. do not teach or suggest the claimed process, it is the Examiner's position that because this reference teaches the addition of an aqueous ammonia solution (in the presence of a nitrate ion source) to regenerate the catalyst (col. 2, lines 27-39 of Ishii et al.), the claim limitation "adding thereto an alkali metal compound and/or ammonia solution" (emphasis added) is met by Ishii et al. Further, it is the Examiner's position that the addition of the ammonia solution is considered to automatically effect a pH adjustment, absent the showing of convincing evidence to the contrary. Applicants argue that the addition of the nitrate ion source prior to the addition of the ammonia solution increases the pH of the solution from a low value to a high value, thus creating

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an alkaline mixture. The Examples of Ishii et al. do not support this argument; no initial or final pH values are disclosed. Additionally, Applicants have not presented concrete evidence supporting their argument that a pH increase is exhibited by Ishii et al.

Further, the claims in their present form merely recite a pH adjustment to a value of 6.5 or less. The claims do not indicate whether the "adjustment" is one of increasing or decreasing pH value.

For these reasons, Applicants' arguments are not persuasive.

Allowable Subject Matter

3. Claims 3 and 7 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

The prior art does not teach or suggest the claimed step of removing all or part of the alkali metal component represented by the variable X (potassium, rubidium, or cesium) from the mixture prior to pH adjustment.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing

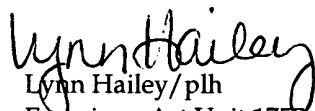
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date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (703) 308-3317. The examiner can normally be reached on Mondays-Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Bell can be reached on (703) 308-3823. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0661.


Lynn Hailey/plh
Examiner, Art Unit 1755
March 25, 2003


Mark L. Bell
Supervisory Patent Examiner
Technology Center 1700